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# Quality Engineering Test Report

**SERIES: SCN-600 600W PARALLEL SWITCHING POWER SUPPLY**

**SAMPLE:**

| | |
|---|---|
| B.SCN-600-05 | +05V / 100A |
| C.SCN-600-12 | +12V / 50A |
| D.SCN-600-15 | +15V / 40A |
| E.SCN-600-24 | +24V / 25A |
| F.SCN-600-48 | +48V / 12.5A |

| NO | TEST ITEM | TEST CONDITION / SPECIFICATION | RESULT | VERDICT |
|---|---|---|---|---|
| 1 | AC INPUT VOLTAGE RANGE | I/P:TESTING SPEC: 220VAC<br>O/P:FULL LOAD SELECT BY SWITCH | C:139~264VAC | P |
| 2 | LINE REGULATION | I/P:180~260VAC SPEC: ±1%<br>D:190~260VAC<br>O/P:FULL LOAD | B: -0.1%~ +0.1%<br>C: -0.1%~ +0.1%<br>D: -0.1% ~ +0%<br>E: -0.1% ~ +0%<br>F: -0% ~ +0% | P |
| 3 | LOAD REGULATION | I/P:230VAC SPEC: ±2%<br>O/P:MIN.TO FULL LOAD | B: -0.5%~ +0.5%<br>C: -0.4% ~ +0.4%<br>D: -0.6% ~ +0%<br>E: -0.4% ~ +0%<br>F: -0% ~ +0% | P |
| 4 | OUTPUT VOLTAGE TOLERANCE | I/P:180~260VAC SPEC: B:±2%<br>O/P:MIN.TO FULL LOAD C~F:±1% | B: -0.5%~ +0.5%<br>C: -0.5% ~ +0.4%<br>D: -0.6% ~ +0%<br>E: -0.4% ~ +0.4%<br>F: -0.1% ~ +0% | P |
| 5 | RIPPLE&NOISE | I/P:230VAC SPEC: B:±2%<br>O/P:FULL LOAD C~F:±1% | B: 100mV<br>C: 50mV<br>D: 130mV<br>E: 80mV<br>F: 90mV | P |
| 6 | AC INPUT CURRENT | I/P:230VAC SPEC: 5.5A<br>O/P:FULL LOAD | C:5.4A | P |
| 7 | MAX. INRUSH CURRENT | I/P:230VAC SPEC: NONE<br>O/P:FULL LOAD | C:45.9A | P |
| 8 | O/P VOLTAGE ADJ.RANGE | I/P:230VAC SPEC: ±5% TYP<br>O/P:MIN. LOAD | B: -3.6%~+5.6%<br>C: -4.1%~+5.8%<br>D: -10%~+10%<br>E: -10.4%~+12%<br>F: -9.1%~+10.4% | P |
| 9 | SET UP TIME | I/P:230VAC SPEC:800mS<br>O/P:FULL LOAD | C:167.4mS | P |
| 10 | HOLD UP TIME | I/P:230VAC SPEC:10mS<br>O/P:FULL LOAD | C:28mS | P |
| 11 | EFFICIENCY | I/P:230VAC SPEC: B:77%<br>C:80%<br>D:81%<br>E:85%<br>O/P:FULL LOAD F:87% | B:77.5%<br>C:83.0%<br>D:86.9%<br>E:85.7%<br>F:87.9% | P |
| 12 | OVER LOAD PROTECTION | I/P:230VAC SPEC: CURRENT<br>O/P:TESTING LIMITING | B:117%<br>C:114%<br>D:112%<br>E:118%<br>F:112%<br>O/P SHORT, AFTER 8 sec.<br>POWER SHUT DOWN | P |
| 13 | OVER VOLTAGE PROTECTION | I/P:230VAC SPEC: C:16.8V<br>O/P:TESTING | C:16.2V | P |

<table>
<tr><th>NO</th><th>TEST ITEM</th><th colspan="2">TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td rowspan="5">14</td><td rowspan="5">SPECIAL FUNCTION</td><td>REMOVE SENSEING</td><td>VS+-LOAD+,VS-~LOAD-</td><td rowspan="5">B:TEST OK<br>C:TEST OK<br>D:TEST OK<br>E:TEST OK<br>F:TEST OK</td><td rowspan="5">P</td></tr>
<tr><td rowspan="2">REMOVE CONTROL</td><td>GND-INH SHORT POWER ON</td></tr>
<tr><td>GND-INH OPEN POWER OFF</td></tr>
<tr><td rowspan="2">OUTPUT VOLTAGE ADJ.</td><td>VCI-VCO SHORT O/P:+Vout</td></tr>
<tr><td>VCI-GND +0.5~5VDC<br>O/P:+10%~100%Vout</td></tr>
<tr><td colspan="2">PARALLEL FUNCTION</td><td colspan="2">C:L--FG: 0.3 mA<br>N--FG: 0.28 mA</td><td>P</td></tr>
<tr><td>15</td><td>GROUND LEAKAGE CURRENT</td><td colspan="2">I/P:240VAC SPEC:<br>L--FG--<3.5mA<br>N--FG--<3.5mA</td><td colspan="2">C:L--FG: 0.3 mA<br>N--FG: 0.28 mA</td><td>P</td></tr>
<tr><td>16</td><td>INSULATION RESISTANCE</td><td colspan="2">SPEC:<br>I/P -- O/P 500VDC / 100M Ohms MIN.</td><td colspan="2">C:I/P -- O/P>100M Ohms</td><td>P</td></tr>
<tr><td>17</td><td>DIELECTRIC / WITHSTAND VOLTAGE</td><td colspan="2">SPEC: I/P-- O/P: 1250VAC/ 1 min. (10mA CUT-OFF)<br>I/P -- FG: 1250VAC/ 1 min. (10mA CUT-OFF)</td><td colspan="2">C:NO BREAK<br>I/P--O/P :2.5mA<br>I/P--FG :2.2mA</td><td>P</td></tr>
<tr><td>18</td><td>BURNIN TEST</td><td colspan="2">I/P: 230VAC O/P:FULL LOAD<br>TA:25℃ BURN-IN DURATION: 2 hrs</td><td colspan="2">C:NO BREAK</td><td>P</td></tr>
<tr><td>19</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td colspan="4">A:I/P :230VAC AFTER 2 hrs BURN-IN<br>O/P :FULL LOAD TA:25℃
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>D1</td><td>BRIDGE DIODE</td><td>36.7℃</td><td>11.7℃</td></tr>
<tr><td>Q1</td><td>MAIN TRANSISTER</td><td>65.4℃</td><td>40.4℃</td></tr>
<tr><td>T4</td><td>MAIN TRANSFORMER</td><td>49.2℃</td><td>24.2℃</td></tr>
<tr><td>D21</td><td>O/P DIODE</td><td>73.1℃</td><td>48.1℃</td></tr>
<tr><td>C40</td><td>O/P FILTER CAPACITOR</td><td>39.1℃</td><td>14.1℃</td></tr>
<tr><td>L4</td><td>O/P CHOKE</td><td>57.3℃</td><td>32.3℃</td></tr>
</table></td><td>P</td></tr>
<tr><td>20</td><td>LIFE CYCLE</td><td colspan="4">A:<br>SUPPOSE C40 IS THE MOST CRITICAL COMPONENT<br>( C40 : STONE 2200uF/63V,85℃ ,2000hrs )<br>I/P:230VAC O/P:FULL LOAD TA:25℃ C40:39.1℃ Life: 48167 hrs</td><td>P</td></tr>
<tr><td>21</td><td>CONSTRUCTION INSPECTION ( FOR QC INSPECTION REFERENCE ONLY )</td><td colspan="4">A: 1. PACKING :WHITE BOX<br>2. MARKING :I/P 110/220VAC 47~63Hz , O/P 12VDC/50A<br>3. TOPOLOGY :HALF BRIDGE CIRCUIT<br>4. MECHANICAL :I/P 3 PIN TERMINAL,O/P 2 TERMINAL,<br>SPECIAL FUNCTION CONTROL : 8 PIN CONNECTOR</td><td></td></tr>
<tr><td>22</td><td>CRITICAL COMPONENT RECORD ( FOR QC INSPECTION REFERENCE ONLY )</td><td colspan="4">A:FUSE : 10A/250V<br>BRIDGE DIODE : D15B60<br>LINE FILTER : EE-3010<br>TRANSFORMER : ETD-49<br>POWER SWITCHER : IXYS,IXFH26N50 x 2PCS<br>OUTPUT DIODE : C30P10Qx4 TO3P<br>INPUT CAPACITOR : RUBYCON 680uF/250V MXR 105℃x4<br>OUTPUT CAPACITOR : STONE 2200uF/63V -40~85℃x5<br>P.C.B : CEM-1, 2 OZ<br>FAN : INNOVATIVE 6cm/12V BP602512H</td><td></td></tr>
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| DATE | SAMPLE | TEST RESULT | TEST | APPROVAL |
|---|---|---|---|---|
| 861126 | SCN600-12 | PASS | T.K.CHENG | MAX LIN |
| 1999.5.6 | SCN-600-24<br>SCN-600-15<br>SCN-600-48<br>SCN-600-05 | PASS | T.K.CHENG | MAX LIN |

PREVIOUS